

## CLAIMS

What is claimed is:

- 5           1.       A mobile device having a plurality of device interfaces for transmitting data received from a network through a network controller, the mobile device comprising:
- a data stack including an identity associating layer, the identity associating layer associating identifiers with packet data protocol contexts corresponding to the
- 10           plurality of device interfaces;
- a general resource indicator generating a first indication in response to system memory of the mobile device being substantially exhausted;
- a private resource indicator generating a second indication in response to
- 15           private resources corresponding to the plurality of device interfaces being substantially exhausted;
- a control processing unit generating a flow control indication signal in response to the first indication, the second indication, flow control information corresponding to the plurality of interfaces, and the identifiers associated by the
- identity associating layer; and
- 20           a bit-map generator generating a bit-map, based on the flow control indication signal, discretely controlling transmission of data from the radio network controller to the plurality of device interfaces.
2.       The mobile device of claim 1, wherein the bit-map generated by the
- 25           bit-map generator comprises:
- a global flow control bit portion including the first indication; and
- a flow control bit portion including bits corresponding to association of the identifiers with the packet data protocol contexts.
- 30           3.       The mobile device of claim 1, wherein the identifier corresponds to a radio bearer identity.

4. The mobile device of claim 1, wherein the identifier corresponds to a packet flow identifier.

5. The mobile device of claim 1, wherein the flow control information  
5 corresponds to an interruption of a coupling at one or more of the plurality of interfaces.

6. A communication system transmitting data between a mobile device and a network through a radio network controller, the mobile device directing the data  
10 to a plurality of interfaces, the communication system comprising:

a data stack including an identifier associating layer associating identifiers with packet data protocol contexts corresponding to the plurality of interfaces;

a general resource indicator, positioned in the mobile device, generating a first indication in response to system memory of the mobile device being substantially  
15 exhausted;

a private resource indicator generating a second indication in response to private resources corresponding to the plurality of interfaces being substantially exhausted;

a first control processing unit generating a flow control indication signal in  
20 response to the first indication, the second indication, flow control information corresponding to the plurality of interfaces, and the identifiers associated by the identity associating layer;

a bit-map generator generating a bit-map based on the flow control indication signal; and

25 a second control processing unit interpreting the bit-map generated by the bit-map generator and discretely controlling the transmission of the data from the radio network controller to the plurality of interfaces.

7. The communication system of claim 6, wherein the bit-map generated by the bit-map generator comprises:

a global flow control bit portion including the first indication; and  
a flow control bit portion including bits corresponding to association of the identifiers  
5 with the packet data protocol contexts.

8. The communication system of claim 6, wherein the identifier corresponds to a radio bearer identity.

10 9. The communication system of claim 6, wherein the identifier corresponds to a packet flow identifier.

10. The communication system of claim 6, wherein the flow control information corresponds to an interruption of a coupling at one or more of the  
15 plurality of interfaces.

11. The communication system of claim 6, further comprising a queuing mechanism receiving and organizing the data transmitted from the network to the radio network controller, wherein, in response to the second control processing unit  
20 disabling transmission of one or more data streams from the radio network controller to the plurality of device interfaces, subsequent receipt of the one or more data streams by the radio network controller is inserted within the queuing mechanism.

12. A method for controlling multiple data flow between a mobile device  
25 and a network through a radio network controller, comprising the steps of:

associating a packet data protocol context with a corresponding identifier;  
generating a flow control bit-map controlling transmission of the data flow to the mobile device, and transmitting the flow control bit-map from the mobile device to the radio network controller; and

30 discretely controlling transmission of the data flow from the radio network controller to a plurality of interfaces within the mobile device.

13. The method of claim 12, further comprising the step of determining whether the flow control bit-map has changed since receipt of a prior generated flow control bit-map.

5 14. The method of claim 12, wherein the identifier corresponds to a radio bearer identity.

15. The method of claim 12, wherein the identifier corresponds to a packet flow identifier.

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16. The method of claim 12, wherein the step of generating a flow control bit-map comprises the steps of:

determining whether general resources of the mobile device have been substantially exhausted;

15 determining whether resources associated with each of the plurality of device interfaces has been substantially exhausted; and

determining whether an indication has been received from each the plurality of device interfaces to disable corresponding transmission of the data flow.

20 17. The method of claim 16, wherein, in response to general resources of the mobile device being substantially exhausted, resources associated with the plurality of device interfaces being substantially exhausted, and an indication being received from the plurality of device interfaces to disable the transmission of the data flow, the corresponding data flow to each of the plurality of device interfaces is  
25 disabled.

18. The method of claim 17, wherein, in response to general resources of the mobile device not being substantially exhausted, resources associated with the plurality of device interfaces not being substantially exhausted, and an no indication being received from the plurality of device interfaces to disable the transmission of the data flow, the method further comprises the steps of:
- 5 determining whether excess general resources of the mobile device are available;
  - determining whether excess private resources associated with the plurality of device interfaces is available; and
  - 10 determining whether an indication has been received from each the plurality of device interfaces to enable corresponding transmission of the data flow.